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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,426	09/26/2006	Hajime Adachi	051144-0120	2944
22428 7590 05/21/2009 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			EXAMINER WELCH, DAVID T	
			ART UNIT 2628	PAPER NUMBER
			MAIL DATE 05/21/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/594,426

**Applicant(s)**

ADACHI ET AL.

**Examiner**

DAVID T. WELCH

**Art Unit**

2628

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9, 11-15, 17-21 and 23-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9, 11-15, 17-21 and 23-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendments***

1. Applicant's amendments filed on February 10, 2009 have been entered. Claims 9, 11, 14, 15, 17-21, and 23-26 have been amended. Claims 10, 16, and 22 have been canceled. No claims have been added. Claims 9, 11-15, 17-21, and 23-26 are still pending in this application, with claims 9, 15, and 21 being independent.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 9, 11-13, 15, 17-19, 21, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Senda et al (U.S. Patent Application Publication No. 2004/0176908), referred herein as Senda, in view of Nimura et al. (U.S. Patent No. 6,282,490), referred herein as Nimura.

Regarding claim 9, Senda teaches a map information creating device comprising: a geometry extracting unit that extracts geometry data from map information including a three-dimensional object indicating three-dimensional geometry configured by width and height (page 3, paragraph 48, lines 1-8; paragraph 49), the geometry data including a cross-section constituted of at least the width and the height of the three-dimensional

object (figure 7; page 5, paragraph 68, lines 1-5; paragraph 69, lines 1-8); and a creating unit that creates a second three-dimensional object having geometry identical to that of the three-dimensional object based on the cross-section (page 5, paragraphs 72 and 76). Senda does not explicitly teach the device, wherein the three-dimensional geometry is further configured by length, wherein the device further comprises a length extracting unit that extracts information on length of the three-dimensional object from data including information on the length, and wherein the creation of the second three-dimensional object is further based on the length extracted. Nimura teaches a map display device that extracts stored map data and generates objects based on the data (abstract, lines 1-4; column 6, lines 16-20), wherein the device comprises a length extracting unit that extracts information pertaining to the length of a three-dimensional object, and wherein creation of a three-dimensional object is based, in part, on the extracted length information (figures 1 and 2A-2E; column 4, lines 42-47, 52-59, and 64-67; column 5, lines 1-3; column 6, lines 16-20; column 7, lines 18-21). Including the length of the geometric data, as taught by Nimura, is an essential, if not required, element of the three-dimensional object creation, and, as was very well known in the art at the time of the invention, increases the realism of the rendered object since all three dimensions are considered. Furthermore, Senda illustrates three dimensions such as length, width, and height, in figures 5-7, thus implicitly disclosing the requirement of a length metric. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the length data extraction taught by Nimura with the invention disclosed by Senda.

Regarding claim 11, Senda in view of Nimura teaches the map information creating device according to claim 9, and further teaches the device, wherein the length extracting unit extracts, from network data on a road network in which a plurality of links are connected, link length information on length of a link as the information on length (Nimura, figures 2A-2E and figure 5; column 6, lines 16-20; column 7, lines 18-21), and the creating unit creates the second three-dimensional object further based on the link length information (Senda, page 5, paragraph 72; Nimura, column 7, lines 18-21).

Regarding claim 12, Senda in view of Nimura teaches the map information creating device according to claim 9, and further teaches the device, further comprising a link-direction extracting unit that extracts, from network data of a road network in which a plurality of links are connected, link direction information on direction of a link (Senda, page 3, paragraph 49, lines 1-4 and 8-10; Nimura, column 6, lines 24-26 and 31-34), wherein the creating unit creates the second three-dimensional object further based on the link direction information (Senda, page 5, paragraph 72; Nimura, column 6, lines 16-20; column 7, lines 18-21).

Regarding claim 13, Senda in view of Nimura teaches the map information creating device according to claim 9, and further teaches the device, further comprising a texture extracting unit that extracts texture information including information on a texture drawn on an arbitrary surface of the three-dimensional object, information on a representative color of the arbitrary surface (Senda, page 3, paragraph 50, lines 8-11; paragraph 53, lines 1-5), and information on a drawing cycle of the texture, from the three-dimensional object (Nimura, column 7, lines 18-23 and 56-59; the drawing cycle continues until the extracted information indicates that it should cease), wherein the creating unit creates the second three-dimensional object based on the texture information (Senda, page 5, paragraph 72).

Regarding claims 15 and 17-19, the limitations of these claims correspond to the limitations of claims 9 and 11-13, respectively; thus they are rejected on the same grounds as the limitations of claims 9 and 11-13, respectively.

Regarding claims 21 and 23-25, the limitations of these claims correspond to the limitations of claims 9 and 11-13, respectively; thus they are rejected on the same grounds as the limitations of claims 9 and 11-13, respectively.

4. Claims 14, 20, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Senda, in view of Nimura, and further in view of Nguyen et al. (U.S. Patent No. 6,084,980), referred herein as Nguyen.

Regarding claim 14, Senda in view of Nimura teaches the map information creating device according to claim 9, but does not teach the device, wherein the creating unit includes a detecting unit that detects whether a first end-face data representing an end face of a first three-dimensional object created by the creating unit and a second end-face data representing an end face of a second three-dimensional object other than the first three-dimensional object intersect with each other, and the creating unit creates a complementary three-dimensional object that complements between the first three-dimensional object and the second three-dimensional object by carrying out drawing in which peaks of the first end-face data and the second end-face data are extended, based on a result of detection by the detecting unit. Nguyen teaches a device for deriving intermediate data of cross-sectional three-dimensional data (title and abstract), wherein the device comprises a detecting unit that detects

whether a first end-face data representing an end face of a first three-dimensional object created by the creating unit and a second end-face data representing an end face of a second three-dimensional object other than the first three-dimensional object intersect with each other (figures 4a-4e and figures 9b and 9d; column 5, lines 54-65; column 9, lines 44-49; column 12, lines 55-67; column 21, lines 27-41; column 22, lines 9-17; column 30, lines 60-61), and creates a complementary three-dimensional object that complements between the first three-dimensional object and the second three-dimensional object by carrying out drawing in which peaks of the first end-face data and the second end-face data are extended, based on a result of detection by the detecting unit (figures 4a-4e and figures 9b and 9d; column 12, lines 55-67; column 21, lines 27-41; column 22, lines 9-17; column 30, lines 62-63). As taught by Nguyen, and as was widely known in the art at the time of the invention, utilizing this method greatly improves the quality of the rendered objects because areas of the objects whose geometric sections are incident with one another are effectively smoothed out, creating a seamless, more realistic, geometric rendering. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the intersection detection and object peak extension disclosed by Nguyen with the invention disclosed by Senda in view of Nimura.

Regarding claims 20 and 26, the limitations of these claims correspond to the limitations of claim 14; thus they are each rejected on the same grounds as claim 14.

***Response to Arguments***

5. Applicant's arguments, see page 7, filed February 10, 2009, with respect to the drawing objections have been fully considered and are persuasive; thus the objections to the drawings have been withdrawn.

6. Applicant's arguments, see page 7, filed February 10, 2009, with respect to the claim objections have been fully considered and are persuasive. The amendments to the claims are sufficient to overcome the informalities of the original claims; thus the objections to these claims have been withdrawn.

7. Applicant's arguments, see page 7, filed February 10, 2009, with respect to the 101 rejections have been fully considered and are persuasive. The amendments to the claims are sufficient to overcome the 101 rejection, as the amended claims are tied to a statutory category. Thus the 101 rejections of these claims have been withdrawn.

8. Applicant's arguments filed February 10, 2009 have been fully considered but they are not persuasive.

On page 8 of the Applicant's Remarks, with respect to the 103 rejection of claims 9, 15, and 21, the Applicant argues that Senda in view of Nimura does not teach the claimed subject matter because 1) they do not mention using a cross-section of three-dimensional data, and 2) they do not mention generating a second three-dimensional object with identical geometry as the first, based on the cross-section and length. The



Examiner respectfully disagrees with these arguments. Regarding the first argument, the claims require that the cross-sectional data is constituted by the width and height of a three-dimensional object. This cross-section is explicitly taught by Senda on page 5, paragraph 69, which discloses that the "viewport" is a rectangular region with a certain width and height of a first, extracted three-dimensional object. Regarding the second argument, as addressed in the above and previous Office Actions, Senda does not explicitly teach the extraction of length information and using this as a basis for the creation of the second three-dimensional object in addition to the cross-sectional data. These limitations, however, are disclosed by Nimura, and were combined with Senda accordingly. Senda does disclose creating a second three-dimensional object with identical geometry as the first three-dimensional object based on the cross-section. Specifically, page 5, paragraph 72, clearly discloses extracting information pertaining to geometry data of a first three-dimensional object (lines 1-10), and using this extracted geometry data to generate a second three-dimensional object, namely, the three-dimensional object to be displayed on the screen, based on the extracted geometry data of the first object (lines 10-13). The result of this process is that the second, generated object has geometry identical to the first, extracted object. Senda further discloses that the generation of the second three-dimensional object is based on the cross-sectional data, i.e. the viewport data (page 5, paragraphs 69 and 76). Thus, the Examiner respectfully submits that the invention disclosed by Senda in view of Nimura teaches these limitations.

On page 8 of the Applicant's Remarks, with respect to the 103 rejection of claims 14, 20, and 26 the Applicant argues that Senda in view of Nimura does not teach the claimed subject matter for similar reasons as previously discussed. The Examiner respectfully disagrees, for the reasons discussed above.

For these reasons, and the reasons discussed in the above and previous Office Actions, the Examiner respectfully maintains the rejections of the claims.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID T. WELCH whose telephone number is (571)270-5364. The examiner can normally be reached on Monday-Thursday, and alternate Fridays, 7:30am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xiao Wu can be reached on (571)272-7761. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/dtw/

/XIAO M. WU/  
Supervisory Patent Examiner, Art Unit 2628